

ABSTRACT

A light-emitting-element array has a semiconductor layer formed on a current-blocking layer. Light-emitting elements are formed in the semiconductor layer by diffusion of an impurity of a different conductive type. An isolation trench divides the semiconductor layer into a first region and a remaining region, and divides the array of light-emitting elements into segments disposed alternately in these two regions, each segment preferably including one or two light-emitting elements. A first shared interconnecting pad is electrically coupled to the light-emitting elements in the first region by electrical paths not crossing the isolation trench. A second shared interconnecting pad is electrically coupled to light-emitting elements in the remaining semiconductor region by electrical paths crossing the isolation trench. The array can then be driven by a number of separate interconnecting pads equal to half the number of the light-emitting elements.